

Safford
Regional Airport
Master Plan
Update 2000
Safford, Arizona



Implementation Plan 

9.1 INTRODUCTION

The objective of this chapter is to examine the financial implementation of proposed improvements at the Safford Regional Airport.

9.2 CAPITAL IMPROVEMENT PROGRAM

Table 9-1 summarizes the 20-year airport capital improvement program (CIP) for Safford. These projects are derived from the preferred development plan selected and documented earlier in Chapter 5. Preliminary cost estimates, in 1999 dollars, have been prepared for each project (including 10 to 20 percent for engineering and contingencies). As shown, the 20-year CIP totals \$7.1 million.

Projects have been scheduled according to anticipated demand and allocated to one of three phases during the twenty-year planning period -- two five-year phases and one ten-year phase. Phase I projects are outlined on an annual basis through 2005, while Phase II and Phase III projects are only identified by phase and listed by anticipated order of priority. **Exhibit 9-1** illustrates the three-phase development program of the preferred development alternative (identified earlier in Chapter 5). Phase I projects, illustrated in red, represent the Airport's highest priorities such as relocated Taxiway D, helicopter parking, and the new airport access road. Phase II projects, such as the new terminal building and additional helicopter parking, are color-coded green. Blue identifies Phase III development -- the last phase of the master planning window. Following Table 9-1 and Exhibit 9-1, a brief narrative description of each project is provided.

Additional projects excluded from the 20-year planning period, but addressed in the 20- to 50-year outlook, include aircraft apron expansion, additional hangar development, auto parking expansion, and Runway 8-26 relocation and extension to accommodate ultimate airspace, separation and aircraft operation needs anticipated. For illustrative purposes, these projects are included on Exhibit 9-1 in purple. However, the runway relocation and extension are excluded from this drawing for simplicity (see Exhibit 5-4, Chapter 5 for an illustration). "Beyond 2020" apron, hangar, and auto parking

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development projects are identified to accommodate potential demand beyond the master planning window's 20-year forecasts.

Table 9-1

Capital Improvement Program

	Project	Cost
PHASE I (1998-2005)		
1999	Pavement Preservation Project	(see note)
2000	Relocate Taxiway D	270,000
2000	Replace FBO Hangar	194,500
2001	Relocate Airport Access Road	210,000
2001	New PAPIs on Both Runways	58,000
2002	Land Acquisition	1,000,000
2002	Construct West End of Taxiway E	73,340
2002	Upgrade Airfield Signage and Lighting	540,000
2003	Construct Stage I of Hangar Area Taxilanes	155,500
2003	Construct Six New Hangars	228,600
2003	Terminal Building Study/Design	110,000
2003	Construct Stage I of Helicopter Parking (3 spaces)	457,500
2004	Pavement Preservation Project	300,000
2005	Utility Improvements/Fire Protection (12" water line)	420,000
	Subtotal	\$4,017,440
PHASE II (2006-2010)		
	Remove Office Building West of Terminal Building	15,000
	New Terminal Building	300,000
	Master Plan Update (2006)	80,000
	Replace Beacon	20,000
	Construct East End of Taxiway E	119,660
	Construct Stage II of Helicopter Parking (3 spaces)	457,500
	Pavement Preservation Project (2009)	300,000
	Construct One New Hangar	38,100
	Water Storage Tanks	TBD
	Subtotal	\$1,330,260
PHASE III (2011-2020)		
	Construct Stage II of Hangar Area Taxilanes	30,000
	Master Plan Update (2012)	80,000
	Pavement Preservation Project (2014)	300,000
	Construct Two New Hangars	76,200
	Construct Stage III of Helicopter Parking (6 spaces)	885,000
	Master Plan Update	80,000
	Pavement Preservation Project (2019)	300,000
	Subtotal	\$1,751,200
	Total 20-Year CIP	\$7,098,900

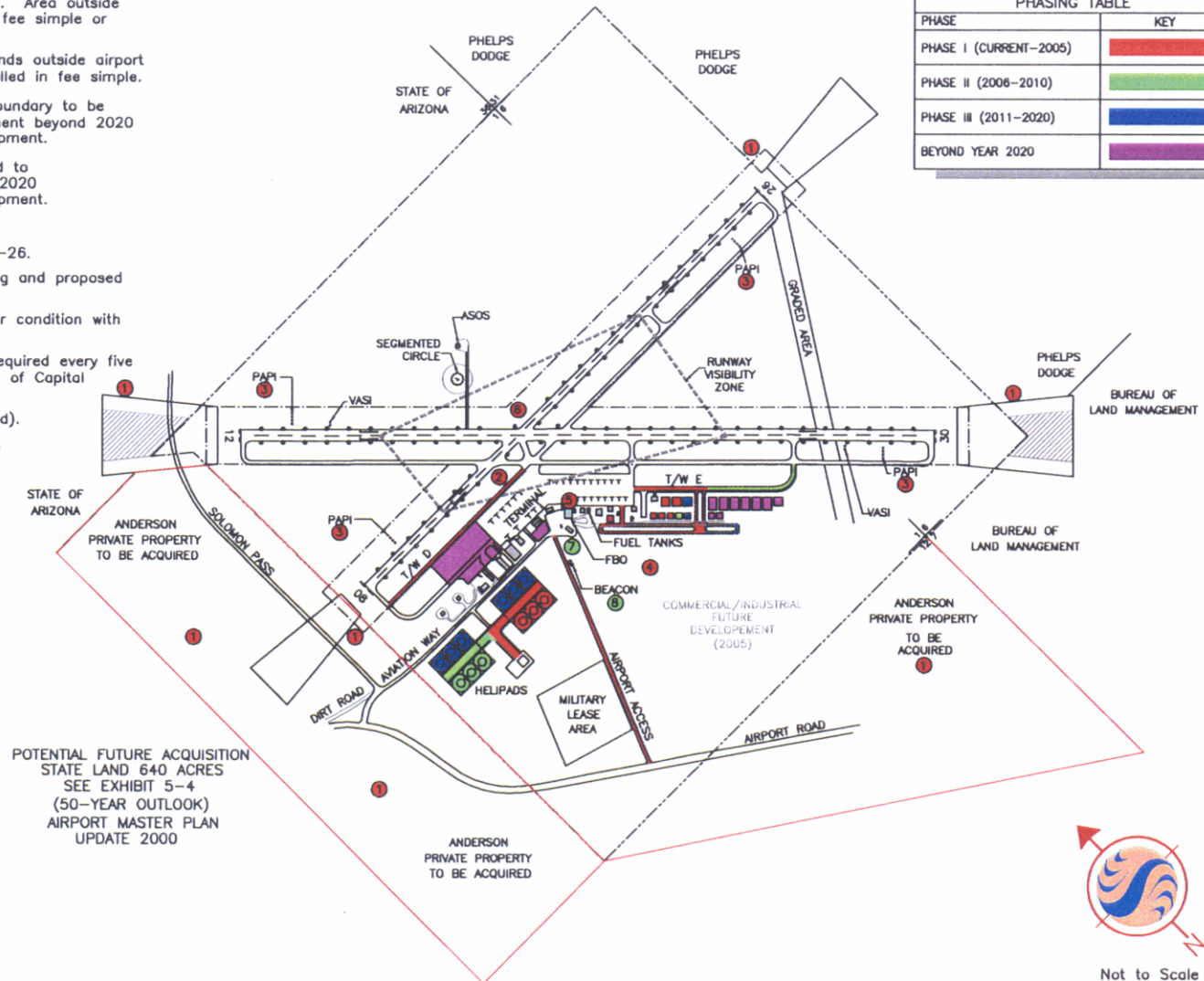
Note: Figures are rounded. Costs are in 1999 dollars. Funding for 1999 project has already been committed (\$240,000 total) and, thus, is excluded from total for future funding. TBD = To Be Determined.

Additive Projects:

- ① Land Acquisition:
 - a) Runway 12-30 protection zones (RPZs) shown supersede previous Master Plan clear zones identified. Area outside former clear zones should be acquired in fee simple or easement.
 - b) Runway 8-26 object free area (OFA) extends outside airport boundary. Per FAA, OFA should be controlled in fee simple.
 - c) Parcel (1/4 section) along west airport boundary to be acquired to protect for proposed development beyond 2020 and to ensure compatible land use development.
 - c) Parcel along south boundary to be acquired to protect for proposed development beyond 2020 and to ensure compatible land use development.
- ② New signage required throughout airfield.
- ③ New PAPIs required on Runways 12-30 and 8-26.
- ④ Utility improvements required to support existing and proposed development.
- ⑤ Replace FBO hangar (existing hangar is in poor condition with inadequate space).
- ⑥ Pavement Preservation Project. Preservation required every five years, thus project programmed in each phase of Capital Improvement Program.
- ⑦ New water storage tanks (site to be determined).
- ⑧ Replace existing beacon at its current location.

LEGEND	
DESCRIPTION	KEY
EXISTING EASEMENT	
PROPERTY LINE	
RUNWAY VISIBILITY ZONE	
OBJECT FREE AREA	
FUTURE PROPERTY LINE	

PHASING TABLE	
PHASE	KEY
PHASE I (CURRENT-2005)	
PHASE II (2006-2010)	
PHASE III (2011-2020)	
BEYOND YEAR 2020	



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EXHIBIT 9-1
Airport Development Phasing

9.2.1 Phase I Development

Following is a detailed description of each project in the Phase I (Current-2005) development period. The year each project is proposed for development is also included in this Phase.

1999 - Pavement Preservation Project *(Funds Already Committed)*

This project consists of a pavement preservation effort identified as coal tar. Coal tar will be used on Runway 12-30, Taxiways A and B, and the apron area. In addition, Runway 12-30 will be re-striped for its non-precision instrument approach capability. Funds totaling \$230,000 have already been committed/ programmed for this project.

2000 - Relocate Taxiway D **\$ 270,000**

Existing Taxiway D, parallel taxiway for west end of Runway 8-26, is located farther south of Runway 8-26 than Taxiway C which is the parallel taxiway for the east end of Runway 8-26. This relocation will also serve the future apron expansion area beyond the planning period.

2000 - Replace FBO Hangar **\$ 194,500**

This project includes a 7,500-square foot pre-engineered metal hangar with utility connections. This hangar would accommodate aircraft maintenance and storage space, FBO office space, and equipment storage. This structure would replace the existing 4800-square foot FBO hangar on lease lot H-1 that is in poor condition.

2000 - Relocate Airport Access Road **\$ 210,000**

The primary airport access road runs between the helicopter operations area and landside development west of the terminal area. This project will relocate the primary access to run more north-south into the airport.

2001 - New PAPIs on both Runways **\$ 58,000**

Both Runways 12-30 and 8-26 require the installation of new PAPI's. Runway 12-30's existing visual approach slope indicators (VASI's) are outdated and in poor condition. Although Runway 8-26 has precision approach path indicators (PAPI's), they are also outdated and should be upgraded.

2002 - Land Acquisition

\$ 1,000,000

Land acquisition is required off the ends of both runways. Runway 8-26 requires acquisition of an area off Runway 26 end in fee simple to accommodate the required object free area (OFA). The City plans to purchase a large parcel consisting of approximately 152 acres off Runway 8 end to accommodate the existing OFA as well as ultimate development plans (beyond 2020) to extend Runway 8-26 (see Chapter 5, Section 5.4). Further, a large triangular parcel of approximately 120 acres is also proposed for acquisition to accommodate ultimate development plans and prevent encroachment, such as residential development, along the southerly boundary of the airport. Acquisition of these large parcels will also ensure that land surrounding the runway extension and the southerly portion of the airport is reserved for other aviation development and commercial/industrial development. Further, the potential acquisition of a 640-acre State-owned parcel is under consideration to protect for the westernmost part of the proposed Runway 8-26 extension and other ultimate development plans for the airport (see Chapter 5, Section 5.4). Runway 12-30 requires the acquisition of 8.3 acres of additional aviation easement. The total cost of this project is based on a preliminary estimate for appraisals, administration of the acquisitions, and the estimated purchase price of the property.

2002 - Construct West End of Taxiway E

\$ 73,340

Taxiway E is proposed for construction to serve the future expansion of the hangar development area. The west end of Taxiway E will provide access from the aircraft apron to the proposed two-way taxilane in the hangar development area. The west end consists of a 673-foot by 35-foot area. This area previously accommodated a taxilane which was abandoned, so there are some remaining pieces of pavement. However, the pavement has significantly deteriorated and is unusable for the future Taxiway E development. The east end of Taxiway E is proposed for construction in Phase II of the planning period.

2002 - Upgrade Airfield Signage & Lighting **\$ 540,000**

This project will bring the airport's signage up to current FAA standards. Airport signage will include runway and taxiway directional signs. In addition, the airfield's lighting system will also be upgraded to include replacing direct-buried lines with conduit.

2003 - Construct Stage I of Hangar Area Taxilanes **\$ 155,500**

Access is needed to the proposed hangar development for 2003. This requires two-way taxilanes running north-south and east-west to serve the proposed hangar development. The two-way taxilanes will consist of two 25-foot width lanes to accommodate Design Group I aircraft which are proposed to occupy the hangar development just south of and parallel to the Design Group II hangars along Taxiway E.

2003 - Construct Six New Hangars **\$ 228,600**

Six new hangars are needed in Phase I of the 20-year planning period to accommodate the forecast based aircraft. For planning purposes, these hangars are estimated to be 1500 s.f. each at a cost of \$20 per square foot plus engineering and construction administration costs.

2003 - Terminal Building Study/ Design **\$ 110,000**

To address the needs of the general aviation community, a new terminal building is proposed. However, details of these needs will be addressed in this Terminal Building Study and Design.

2003 - Construct Stage I of Helicopter Parking (3 spaces) **\$ 457,500**

This project includes the construction of three helicopter parking spaces (including lighting) adjacent to the helicopter pad, southwest of the terminal area. This helicopter parking area will replace the current use of the aircraft apron area on the north side of the terminal area.

2004 - Pavement Preservation Project **\$ 300,000**

Airport-wide pavement preservation is necessary as part of an effective pavement maintenance program. Pavement preservation in the CIP is proposed every five years throughout the planning period.

2005 - Utility Improvements **\$420,000**

This project is identified to provide utility and fire protection improvements. Utility improvements are proposed to support existing and future terminal and hangar development to include bringing the airport to fire protection code standards.

9.2.2 Phase II Development

Following is a detailed description of each project in the Phase II (2006-2010) development period.

Remove Office Building West of Terminal **\$ 15,000**

The FBO is currently using the building to the west of the airport for additional administrative and storage space. However, this building (previously a home) is in poor condition. Once removed, this area will allow room for the proposed new terminal building.

New Terminal Building **\$ 300,000**

The existing terminal building is approximately 1,100 square feet. Based on the findings of the terminal building study and design proposed earlier in Phase II, the construction of a new terminal building is anticipated. Preliminary needs have been defined as 2,640 square feet for an approximate cost of \$300,000.

Master Plan Update **\$ 80,000**

The Safford Regional Airport Master Plan will likely require an update in Phase II of the planning period. The update should include a review of the existing conditions, aviation demand forecasts, and development alternatives (related to any changes in demand). Necessary adjustments to the future capital development program should also be determined.

Replace Beacon **\$ 20,000**

The existing rotating beacon at the airport is in poor condition and will require replacement early in Phase II of the planning period.

Construct East End of Taxiway E **\$ 119,660**

This project consists of constructing the remainder of Taxiway E to serve the future hangar development area -- similar to the Taxiway E project in Phase I.

Construct Stage II of Helicopter Parking (3 spaces) **\$ 457,500**

This project includes the development of three additional helicopter parking spaces (including lighting) to bring total helicopter parking to six spaces in Phase II.

Pavement Preservation Project (2009) **\$ 300,000**

Airport-wide pavement preservation is necessary as part of an effective pavement maintenance program. Pavement preservation in the CIP is proposed every five years throughout the planning period.

Construct One New Hangar **\$ 38,100**

This project consists of constructing one additional hangar to meet the based aircraft storage demand in Phase II of the planning period. For planning purposes, the hangar size is estimated at 1500 square feet at a cost of \$20 per square foot plus engineering and construction administration costs.

Water Storage Tanks **To Be Determined**

This project consists of the installation of water storage tanks for the airport. Specifics of this project have not been determined.

9.2.3 Phase III Development

Following is a detailed description of each project in the Phase III (2011-2020) development period.

Construct Stage II of Hangar Area Taxilanes **\$ 30,000**

Phase II of the hangar area taxilane project, as described earlier, will complete the aircraft access improvements needed to support the proposed hangar development.

Master Plan Update

\$ 80,000

The Safford Regional Airport Master Plan will require another update in Phase III of the planning period. Similar to the Phase II update, a review of the existing conditions, aviation demand forecasts, and development alternatives (related to any changes in demand) should be conducted. Necessary adjustments to the future capital development program should also be determined.

Pavement Preservation Project (2014)

\$ 300,000

Airport-wide pavement preservation is necessary as part of an effective pavement maintenance program. Pavement preservation in the CIP is proposed every five years throughout the planning period.

Construct Two New Hangars

\$ 76,200

This project consists of constructing two additional hangars to meet the based aircraft storage demand in Phase III of the planning period. For planning purposes, the hangar size is estimated at 1500 square feet at a cost of \$20 per square foot plus engineering and construction administration costs.

Construct Stage III of Helicopter Parking (6 spaces)

\$ 885,000

This project concludes the helicopter parking development for the planning period with six additional parking spaces (including lighting) to bring the total to 12 in the helicopter operations area.

Master Plan Update (2018)

\$ 80,000

The Safford Regional Airport Master Plan will require a second update in Phase III of the planning period. The update should include a review of the existing conditions, aviation demand forecasts, and development alternatives (related to any changes in demand). Necessary adjustments to the future capital development program should also be determined.

Pavement Preservation Project (2019)

\$ 300,000

Airport-wide pavement preservation is necessary as part of an effective pavement maintenance program. Pavement preservation in the CIP is proposed every five years throughout the planning period.

9.3 FINANCIAL ANALYSIS

The overall financial ability of Safford was reviewed relative to future capital expenditures required for the proposed projects. In addition to the earlier identification of capital outlays, airport revenues and expenses were projected through the end of the planning period. These projections were based on the historical revenue and expense figures provided by the City of Safford and the Safford Airport Authority.

9.3.1 Revenues

Local operating revenues for Safford Regional Airport include airport leases, tiedown fees, fuel sales, and other miscellaneous revenues (i.e. airshow). Airport leases contribute 45 percent of the total airport revenues. Revenue projections for the master planning period are based on a conservative 1.5 percent annual growth rate (beginning in 2000) plus estimated lease revenues for new hangar development.

9.3.2 Expenses

Airport expenses include maintenance and operating, administrative (including contracts), equipment, and other/miscellaneous expenses. Operating expenses are projected using a 1.0 percent increase annually.

9.3.3 Cash Flow

Table 9-2 outlines the estimated cash flow by phase at Safford Regional Airport through the planning period. As shown, the airport operates and will continue to operate at a deficit -- the City of Safford subsidizes the shortfall. The projections presented translate to an average annual deficit of \$65,900. Since Phase II only covers five years, compared to seven in Phase I and ten in Phase III, revenues and expenses presented are lower for that phase.

Table 9-2**Historical and Projected Cash Flow Summary**

Year	Total Revenues	Total Expenses	Net Cash Flow
Historical (1998)	28,710	93,692	(\$ 64,982)
Phase I (1999-2005)	219,294	675,851	(\$ 456,557)
Phase II (2006-2010)	188,091	512,399	(\$ 324,308)
Phase III (2011- 2020)	436,095	1,104,543	(\$ 668,448)
Total	843,480	2,292,792	(\$ 1,449,312)

Notes: Historical figures (1998) are estimated using information provided by City of Safford and Safford Airport Authority. Revenue and Expense projections through 2020 are in 1999 dollars.

9.3.4 Funding Sources

Historically, capital funding for Safford Regional Airport has primarily been Federal AIP, State Aviation Grants, and local (City) funding. These and other funding sources are described here.

Federal

The primary source of airport funding for proposed capital improvements is the Federal Airport Improvement Program (AIP). The Airport and Airway Trust Fund supports the AIP. The Trust Fund provides a stable funding source whereby users pay for the services they receive. The Trust Fund is built on user fees/taxes derived from the aviation community off fuel, aircraft tires, airline tickets, domestic air cargo, and international departure fees. Congress prepares a budget for the outflows of this fund as part of the annual Federal Budget negotiations.

The Trust Fund appropriations peaked at \$2.264 billion in 1992, and then declined to a low of \$1.372 billion in 1996. Responding to concerns within the aviation community, AIP appropriations were increased to \$1.46 billion in 1997, \$1.7 billion in 1998, and \$1.95 billion in 1999.

The funding identified for Safford's 20-year CIP assumes the continued distribution of airport improvement funds based on the same formula used in the past. In Arizona, the standard AIP grant share is 91.06 percent of the project cost. Projects that are eligible for grants include airport planning, airport capacity enhancement/ preservation projects, noise compatibility programs, and some airport development projects. Eligible

development projects include facilities or equipment associated with the construction, improvement, or repair (excluding routine maintenance) of an airport. Hangars, auto parking areas, most airport buildings, art objects, and decorative landscaping are ineligible. With certain restrictions, buildings that house Aircraft Rescue and Firefighting (ARFF), security, and certain types of maintenance equipment, as well as terminal buildings, may be eligible for federal funding.

Entitlement Funds

For those airports with scheduled commercial passenger services, federal fund appropriations from the Airport and Airway Trust Fund have been based on a legislated apportionment formula relative to the number of enplaned passengers and state population. Enplaning passengers are the paid passengers departing an airport on commercial scheduled aircraft as reported by the airline to the FAA. These funds are often referred to as "Entitlements" and are traditionally used as a source of federal funds for CIP grants for commercial service airports. Since Safford Regional Airport does not have scheduled air carrier service with at least 10,000 annual enplanements, the airport is not eligible for an appropriation from this funding source. The 1998 Arizona Air Service Study identified approximately 5,640 potential enplanements for the Safford market area for the current time frame.

Discretionary Funds

Federal discretionary funds are monies from the Aviation Trust Fund that may be used at any eligible airport. Discretionary allocations are a function of project need and priorities according to the FAA priority rating system and as weighed against other projects. The 1996 reauthorization of the Trust Fund revised the distribution formulas to "set aside" a greater portion of discretionary funds for special projects and noise mitigation. Further refinements to Trust Fund allocations are likely to result from congressional debate.

State

The State of Arizona has an Aviation Fund built on aviation flight property taxes. The fund is administered by the Arizona Department of Transportation Aeronautics Division. These funds are available to match both appropriated federal funds and local funds programmed for capital projects. For federally-funded projects, the State will contribute

4.47 percent. Other projects unfunded by or ineligible for federal funds may be State-funded at 90%.

Local

In the past, the City of Safford has contributed the necessary funds for capital improvement projects. In addition, the City has provided financial assistance to the Safford Airport Authority for operations and maintenance expenses. While the Airport Authority maintains an Airport Fund derived from fuel sales, leases, tiedown fees, and other sources (i.e. air show), this income is and will continue to be insufficient to cover future capital improvement costs. However, development funding could be obtained from private investment.

Projects designed and constructed by the private sector represent another possible source for development funding. Such projects can involve substantial private commitments and result in significant contributions of facilities and amenities to meet the future needs of the users. Potential projects funded through private resources include additional general aviation hangars, fixed base operator (FBO) facilities, and aviation-related industrial development.

Table 9-3 summarizes the estimated federal, state, and local share for each airport development phase based on current federal and state funding formulas and eligibility. As shown, the local funding requirements for Phase I total over \$661,000.

Table 9-3

Summary of Project Funding Eligibility

Project	Federal ¹	State	Local ²	Total Cost
PHASE I				
Pavement Preservation Project				(see note)
Relocate Taxiway D	245,862	12,069	12,069	270,000
Replace FBO Hangar	-	-	194,500	194,500
Land Acquisition ³	9,106	891,447	99,447	1,000,000
Relocate Airport Access Road	191,226	9,387	9,387	210,000
New PAPIs on Both Runways	52,815	2,593	2,593	58,000
Construct West End of Taxiway E	66,783	3,278	3,278	73,340
Upgrade Airfield Signage and Lighting	491,724	24,138	24,138	540,000
Construct Stage I of Hangar Area Taxilanes	141,598	6,951	6,951	155,500
Construct Six New Hangars	-	-	228,600	228,600
Terminal Building Study/Design	-	99,000	11,000	110,000
Construct Stage I of Helicopter Parking	416,600	20,450	20,450	457,500
Pavement Preservation Project ⁴	-	270,000	30,000	300,000
Utility Improvements/Fire Protection	382,452	18,774	18,774	420,000
Subtotal	\$1,998,166	\$1,358,087	\$661,187	\$4,017,440
PHASE II				
Remove Office Bldg West of Terminal Bldg	13,659	671	671	15,000
New Terminal Building	-	270,000	30,000	300,000
Master Plan Update (2006)	72,848	3,576	3,576	80,000
Replace Beacon	18,212	894	894	20,000
Construct East End of Taxiway E	108,962	5,349	5,349	119,660
Construct Stage II of Helicopter Parking	416,600	20,450	20,450	457,500
Pavement Preservation Project ⁴ (2009)	-	270,000	30,000	300,000
Construct One New Hangar	-	-	38,100	38,100
Water Storage Tanks	-	-	-	TBD
Subtotal	\$630,281	\$570,940	\$129,040	\$1,330,260
PHASE III				
Phase II of Hangar Area Taxilanes	27,318	1,341	1,341	30,000
Master Plan Update (2012)	72,848	3,576	3,576	80,000
Pavement Preservation Project ⁴ (2014)	-	270,000	30,000	300,000
Construct Two New Hangars	-	-	76,200	76,200
Construct Stage III of Helicopter Parking	805,881	39,560	39,560	885,000
Master Plan Update (2018)	72,848	3,576	3,576	80,000
Pavement Preservation Project ⁴ (2019)	-	270,000	30,000	300,000
Subtotal	\$978,895	\$588,053	\$184,253	\$1,751,200
Total 20-Year CIP	\$3,607,342	\$2,517,079	\$974,479	\$7,098,900

¹ Indicates maximum eligibility for Federal Airport Improvement Program Grant (91.06%) and State Grant Funding (4.47%), except where noted.

² In addition to City and Airport Authority, funding may include private and/or other funding sources.

³ It is estimated that \$10,000 of the land acquisition total costs is eligible for federal funding for a total of \$9,106 (91.06%) in funding dollars from FAA

⁴ State funding only (90%)

NOTE Figures are rounded. Costs are in 1999 dollars. Funding for 1999 project has already been committed (\$240,000 total). TBD = To Be Determined.

9.3.5 Economic Feasibility

Table 9-4 summarizes the airport's cash position for each phase based on the figures presented earlier in Tables 9-2 and 9-3. These numbers represent total funding required beyond federal and state contributions. Local funds are assumed to come from the City and the Airport Authority. However, some of this financial burden can be passed on to private investors or other sources. This table is presented to determine the economic feasibility of implementing the 20-year CIP.

Table 9-4
Economic Feasibility

	Net Cash Flow (from Table 9-2)	Local* Funding Required for CIP (from Table 9-3)	Net Balance (Surplus/Deficit)
Phase I – 2005	(456,557)	661,187	\$ (1,117,744)
Phase II – 2010	(324,308)	129,040	\$ (453,348)
Phase III – 2020	(668,448)	184,253	\$ (852,701)
Total	\$ (1,449,312)	\$ 974,479	\$ (2,423,791)

* Represents total funding required beyond federal and state contributions.

9.4 CONCLUSIONS AND RECOMMENDATIONS

The Safford Regional Airport requires a total of \$7.1 million to fund the 20-year capital improvement program. Since federal and state funding will not cover approximately \$974,500 of this total amount, the funding will have to come from airport revenues, local government funding sources, and private investors.

In order to monitor the airport's true financial picture in the future, it is recommended that separate cost centers for the airport be established for this purpose. Then, airport cost information can be more easily accessed and evaluated when considering changes to the airport's rates and fees structure in the future.